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To: Distribution

Date: October 27, 1994

From: W. L. Mokarry 

Subject: Equilibration OV Study

A meeting was held to determine parameters and procedures for an equilibration OV study on the PTL plenums. Present at this meeting were: Robin Holleman, Judith Lightner, Wade Mokarry, Jeff Sampson, and David Self. We are running this test to determine if lower air flow levels in the plenums have an effect on equilibrated cigarette characteristics. For the equilibration period examined, OV was designated as the most critical variable.

After some discussion, the group agreed on the following experimental design:

- 2 Brands
 - Marlboro KS (0290) ordered from MC
 - OV Monitor (uncased, unfiltered, single grade Bright)
- 2 Plenums
 - Sample Prep (either Domestic or International, whichever is more convenient)
 - Physical Testing
- 2 Locations within plenum
 - Left-center
 - Right-center
- 4 Equilibration times
 - 0 (as is from packs or cans)
 - 24 hr
 - 48 hr
 - 72 hr
- 5 Replicates per OV determination

Brands were limited in this initial study to obtain a reasonable test size. Only one plenum from Sample Prep was included since both plenums have the same design and characteristics. Two locations per plenum were used to get a better estimate of within plenum variation. A seventy-two hour equilibration time was included to better determine where the equilibration curve flattens. Five replicates were requested to determine OV differences of 0.1%. This was also the limit for one oven load: 2 brands \times 2 plenums \times 2 locations \times 5 replicates = 40 cans per day.

One oven will be used for the entire test (this oven will not be overhauled until the test is completed). One technician will be assigned to handle the entire test.

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Marlboro KS cigarettes have been ordered from the MC. On Tuesday, November 1, the designated technician will open seven cartons of Marlboro. Twelve plenum trays will be randomly loaded with 100 cigarettes each. Bar codes will be available to label these trays:

Marlboro Left SP 24	Marlboro Left PT 24
Marlboro Left SP 48	Marlboro Left PT 48
Marlboro Left SP 72	Marlboro Left PT 72
Marlboro Right SP 24	Marlboro Right PT 24
Marlboro Right SP 48	Marlboro Right PT 48
Marlboro Right SP 72	Marlboro Right PT 72

where SP = Sample Prep, and PT = Physical Testing. These trays will be loaded into their designated plenums in the spaces indicated on Figure 1. The locations do not have to be exact, but should be close. The trays distinguished by equilibration time must be placed in the 2nd, 3rd, and 4th slots of the cubicle, as shown in Figure 2.

The remaining 200 cigarettes will be jarred and ripped for ten OV determinations. This is the Marlboro zero time value.

Also on Monday, eighteen cans of OV monitor will be opened. Twelve plenum trays will be randomly loaded with 100 cigarettes each. Bar codes will be available to label these trays:

Monitor Left SP 24	Monitor Left PT 24
Monitor Left SP 48	Monitor Left PT 48
Monitor Left SP 72	Monitor Left PT 72
Monitor Right SP 24	Monitor Right PT 24
Monitor Right SP 48	Monitor Right PT 48
Monitor Right SP 72	Monitor Right PT 72

As above, the locations do not have to be exact, but should be close. The Monitor trays must be side by side with the Marlboro trays.

The remaining cigarettes will be jarred and ripped for ten OV determinations. This is the Monitor zero time value.

Samples will be removed from the plenums and tested by the following schedule:

<u>Equilibration Time</u>	<u>Day/Date</u>
24 hrs	Wed, Nov 2
48 hrs	Thurs, Nov 3
72 hrs	Fri, Nov 4

Five OV determinations will be made for each sample in each location in both plenums. All samples must be tested at the same time of day that they were initially loaded into the plenum.

After the results of this test are analyzed, the study will be repeated in its entirety.

Please call me at x3159 if you have any questions.

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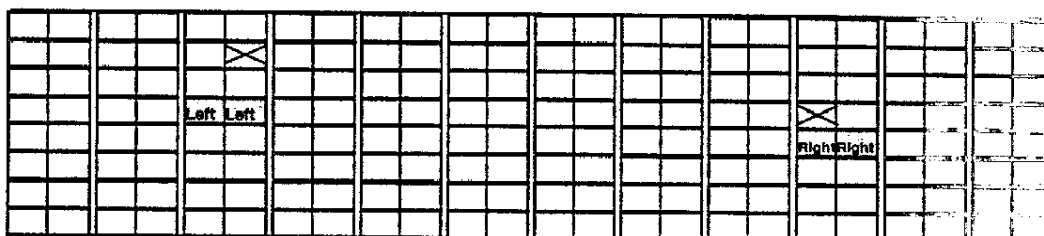
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Figure 1

Locations in Plenum for Sample Cigarettes



Approximate locations for Marlboro and OV monitor samples
Samples can vary, but should be kept side by side.

Figure 2

Location of Trays within Cubicle

